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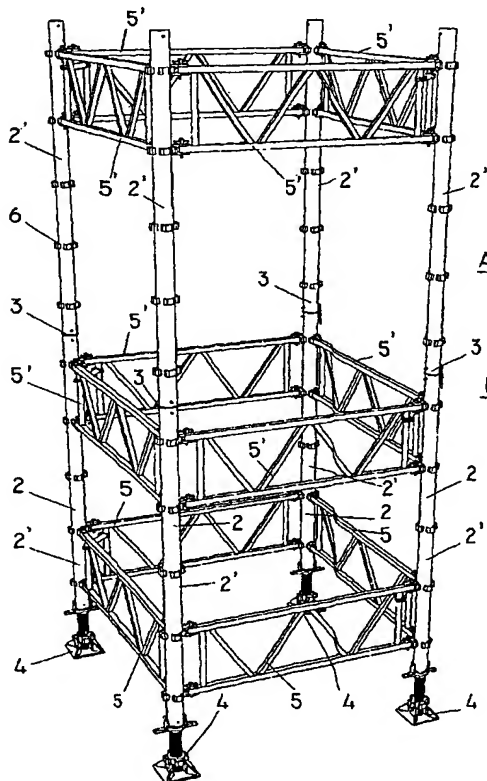
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*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: MODULAR HEAVY DUTY SUPPORT SYSTEM



(57) Abstract: The invention relates to a modular HD (Heavy Duty) support system (1) having a strongly increased resistance to breaking strain and strain of flexure for the support of very huge and heavy shuttering for use in modern building. This module comprises vertical upright assembly systems (2) consisting of upright elements (2') with connecting members (3) and intermediate frames (5). The bottom part and/or top part of each upright assembly (2) is provided with a spindle assembly (4), which is capable of carrying a high load and with adjustable butterfly nuts (20) and coupling pieces (21). In upward direction the upright assembly systems (2) are extended by means of connecting pieces (3) provided with locking pins (8a, 8b) for obtaining a connection which is resistant to tensile strain. In lateral direction the upright assembly systems (2) are intercoupled by means of a coupling assembly comprising a screw member (46) and claws (47, 48) positioned on intermediate frames (5) and also C-shaped coupling members positioned on upright elements (2'), but also on a coupling piece (21) of a spindle assembly (4) for reducing the flexing length thereof. The module (1) is transportable as a whole in assembled position and even in height adjustable under load. The module (1) may be in height and also in width and in length be extended moreover by practically an unlimited number of upright assembly systems (2) and intermediate frames (5).

INTERNATIONAL SEARCH REPORT

International Application No
PCT/NL 03/00543

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E04G11/48 E04G5/02 E04G7/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E04G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 549 359 A (ONO TATSUO) 30 June 1993 (1993-06-30) column 11, line 11 - line 42 column 12, line 35 - line 38 column 13, line 9 - column 14, line 23 figures	1
A	US 6 161 359 A (ONO TATSUO) 19 December 2000 (2000-12-19) figures	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

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Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/NL 03/00543

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claim: 1.

Modular heavy duty support system.

2. claims: 2, 10-12.

Adjustable spindle assembly.

3. claims: 3, 6-8.

Alternative coupling assembly.

4. claim: 4.

Tube-shaped HD connecting member.

5. claim: 5 and 9.

Spatial elements of a support system which have proportional dimensions.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 03/00543

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